

Claims

- 1) A protective crosslinkable coating composition comprising modified epoxy resin and crosslinker the modified epoxy resin being the reaction product, by weight, of
 - i) from 80 to 99.9 parts of di-epoxy resin of epoxy equivalent weight from 500 to 5000 and formed from the reaction of bis phenol A diglycidyl ether and bis phenol A and
 - ii) from 0.1 to 20 parts of reactive materialcharacterised in that
 - a) the di-epoxy resin contains minor amounts of resin components of molecular weight less than 1000 Daltons
 - and the reactive material comprises
 - b) mono-functional organic material of molecular weight at least 100 Daltons having one moiety capable of reacting with the epoxy moieties of the di-epoxy resin and
 - c) dicarboxylic acid of molecular weight less than 300 Daltons having two moieties capable of reacting with the epoxy moieties of the di-epoxy resin.
- 2) A coating composition according to Claim 1 characterised in that the relative amount of mono-functional organic material to dicarboxylic acid, by weight, is from 3:1 to 12:1
- 3) A coating composition according to Claim 1 or Claim 2 characterised in that the resin component of molecular weight less than 1000 Daltons comprises bis phenol A diglycidyl ether.
- 4) A coating composition according to any one of the preceding Claims characterised in that the amount of bis phenol A diglycidyl ether extractable from a crosslinked coating of the coating composition is less than 0.3 micrograms/dm²
- 5) A coating composition according to any one of Claims 2 to 4 characterised in that the mono-functional organic material is a mono-carboxylic acid.
- 6) A coating composition according to Claim 5 characterised in that the mono-carboxylic acid is tetradecanoic acid.
- 7) A coating composition according to any one of the preceding Claims characterised in that the di-carboxylic acid is tartaric acid.

- 8) A coating composition according to any one of Claims 2 to 7 characterised in that the amount of reactive material comprises from 1 to 20% by weight of the modified epoxy resin.
- 9) A coating composition according to any one of Claims 2 to 8 characterised in that the modified epoxy resin has at least 30% of the number of epoxy groups as on the diepoxy resin from which it is derived.
- 10) A process for producing the modified epoxy resin as defined in any one of the preceding Claims comprising the steps of causing a diepoxy resin of epoxy equivalent weight of from 500 to 5000, formed by the reaction of bis phenol A diglycidyl ether and bis phenol A and containing minor amounts of resin components of molecular weight less than 1000 Daltons to react with a mono-functional organic material of molecular weight at least 100 Daltons and a dicarboxylic acid of molecular weight less than 300 Daltons.
- 11) A process according to Claim 10 characterised in that the mono-functional organic material is reacted with the diepoxy resin in a first step, the resulting product being reacted with the dicarboxylic acid in a later step.
- 12) A metal container coated with the coating composition according to any one of Claims 1 to 9.
- 13) A process of producing a crosslinked coating on a metal container characterised in that it comprises the steps of applying a coating according to any one of Claims 1 to 9 and causing the coating to crosslink.
- 14) A modified epoxy resin as defined in any one of Claims 1 to 9.
- 15) The use of a modified epoxy resin for reducing the amount of bis phenol A diglycidyl ether extractable from a crosslinked coating composition on the interior surface of a metal container to less than 0.3 micrograms/dm², said modified epoxy resin being as defined in Claim 14